

## Remarks

The following Remarks are in reply to the Office Action mailed October 6, 2004. A one-month extension of time under 37 CFR 1.136(a) is included herewith. Claims 1-3 and 6-73 were pending in the Application prior to the outstanding Office Action. Within the Office Action, Claims 1-3 and 6-73 were rejected and are currently pending. The Applicants respectfully request reconsideration.

## I CLAIMS REJECTED UNDER 35 U.S.C. §103

### The Present Invention

The present invention is an electrostatic air transporter-conditioner preferably having multiple inlets and outlets. In particular, the present device is preferably a compact, stand-alone consumer unit which includes a housing 210 with two inlet vents, 204a, 204b and two outlet vents 206a, 206b as shown in Figure 3A. The two inlet vents 204a and 204b are preferably configured on the top and the bottom surfaces of the housing. In addition, the outlet vents 206a, 206b are preferably located in the side peripheral wall of the housing and are preferably located on opposite sides of the housing as shown in Figure 3A. The unit also preferably includes two ion generating units within the housing.

As shown in Figures 3A and 3C of the present application, the ion generators 220 bring air into the housing 210 through the inlet vents 204a and 204b and preferably drive the air downstream toward the outlet vents 206a and 206b in the opposite sides of the housing 210. In one embodiment shown in Figure 3C, the two ion generators 220, each preferably having an emitter electrode 232 and two collector electrodes 242, are located within the housing 210, whereby high voltage applied to the emitter electrodes 232 and collector electrodes 242 in each ion generator 220 causes air to flow from the emitter electrodes 232 downstream toward the collector electrodes 242. It is preferred that the ion generators 220 are arranged to face opposite directions, as shown in the one embodiment in Figure 3C, whereby the ion generators 220 each preferably bring in air vertically through the inlets 204a, 204b in the opposed top and bottom surfaces and preferably push the air horizontally through the opposite outlet vents 206a, 206b, as indicated by the "OUT" arrows in Figure 3C.

### The Satyapal Reference

Satyapal describes an electronic air cleaner 10 with a housing 20 having one airstream inlet 22, one airstream outlet 24 and an airflow passageway 25 extending therebetween. The cleaner is designed to be installed in a central air cooling and heating system, such as an air duct, whereby air enters the air cleaner 10 through the inlet 22, travels along the airflow passageway 25, and exits the air cleaner 10 through the outlet. The Satyapal device is thus configured to push air in a generally one-dimensional direction (i.e. from left to right), as shown by the arrows. The electrostatic participator cell 40 in Satyapal has a plurality of ionizer wires 46 and a plurality of alternately charged collector plates 42 which push air from the inlet to the outlet. A plurality of germicidal lamps 50 are disposed downstream of the electrostatic precipitator cell 40 and are used to kill microbes which collect on the precipitator cell.

### Rejection in light of Satyapal

Within the Office Action, Claims 1-3, 8, 10, 14, 17-27, 29, 31, 35, 39-48, 51-59, 61-62, 65, and 71-73 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Satyapal, et al. (U.S. Patent No. 5,879,435). The Applicants respectively traverse.

A claim is obvious under 35 USC 103 if, at the time of the invention, it would have been obvious to one skilled in the art to have modified the Satyapal reference to provide the missing elements. However, to establish a *prima facie* case of obviousness, the Examiner must show some objective teaching or general knowledge to modify the Satyapal reference to reach the claimed invention. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). In other words, the Examiner must provide particular findings or objective evidence, and not just broad conclusory statements, in making a determination of obviousness. *In re Kotzab*, 217 F.3d 1365 (Fed. Cir. 2000).

One skilled in the art would have no motivation to modify Satyapal to reach the claimed invention. The main point of the Satyapal reference is to the placement of the UV lamps with respect to the electrostatic precipitator cell. This is evidenced in the “Summary of Invention” section of Satyapal which states that all the objects of the invention are directed to irradiating the collector plates to prevent microbial growth thereon. There is no mention of increasing airflow or collection efficiency in Satyapal. Thus, one

skilled in the art may reasonably assume, upon viewing Satyapal, that the device sufficiently moves air and collects particles.

In regards to Claims 1-2 and 23-24, it is admitted within the office action that Satyapal does not teach a plurality of air inlets, outlets or ion generators. It is stated in the office action that, however, that it would have been obvious to one skilled in the art to modify Satyapal to have a plurality of air inlets, outlets and ion generators to increase the amount of ionized air and cleaning efficiency. The Examiner improperly separates the limitations of the claimed invention to piece together the teachings of the prior art so that the claimed invention is obvious. In re Fritch, 972 F. 2d 1260 (Fed. Cir. 1992); In re Chu, 66 F.3d 292 (Fed. Cir. 1995) (“the changes to the prior art must be evaluated in terms of the *whole invention*, including whether the reference provide any teaching or suggestion to make the changes that would produce the claimed invention”) (emphasis added). The present invention preferably utilizes multiple inlets, outlets and ion generators *in conjunction with* arranging the inlets, outlets and ion generators in a novel way to increase the airflow and collection efficiency of the device. The Examiner fails to provide evidence as to how one skilled in the art would be able to find such motivation or even accomplish the claimed invention *as a whole* from viewing the Satyapal reference. Accordingly, the Applicants respectfully request that the obviousness rejection be removed. Alternatively, the Applicants respectfully challenge the Examiner to provide objective evidence of motivation to modify the Satyapal reference to reach the claimed invention.

The Examiner also states in the office action that the Satyapal device has large inlets, outlets and contains many electrodes, whereby these structures would equally work well as those in the present claimed invention. However, the Examiner does not provide any evidence that the Satyapal device has inlets, outlets, and electrodes which would work equally well as the claimed invention. Instead, the Examiner is relying on broad, conclusory statements which, standing alone, are not evidence in determining obviousness. See Kotzab. Alternatively, the Examiner is basing the assertion that the Satyapal structures would work equally as well as those in the claimed invention on personal knowledge outside of the record. However such knowledge must be capable of **instant and unquestionable demonstration** as being well known. In re Ahlert, 424 F.2d 1088 (CCPA 1970) (stating that assertions of technical facts must always be supported by citation of some reference work). Therefore, the Applicants respectfully request that the

obviousness rejection be removed. Alternatively, the Applicants respectfully challenge the Examiner to provide objective evidence in support of this statement or provide an Affidavit swearing to these facts. 37 CFR 1.104(d)(2); MPEP 2144.03.

In regards to Claims 8, 14, 17, 26-27, 29, 35, 39, 45, 48, 55-56, 71-73, the Examiner admits in the office action that Satyapal does not teach the specific arrangement of the inlets, outlets and ion generators as in the claimed invention. The Examiner states, however, that one skilled in the art knows that airflow would be affected by many parameters (position, shape, length of electrodes, and other elements inside the ion generator), and depending on such parameters, the air inlets and outlets would be configured to obtain an optimal amount of ions in the airflow. Again, the Examiner has failed to show particular findings as to why one skilled in the art, with no knowledge of the claimed invention, would have selected the components in the Satyapal device and arranged them in the manner claimed. See Kotzab at 1371; In re Gordon, 733 F.2d 900 (Fed. Cir. 1984) (“Although a prior art device could have been turned upside down, that did not make the modification obvious unless the prior art fairly suggested the desirability of turning the device upside down.”) Again, there is no evidence in Satyapal which would give one skilled in the art the motivation to modify Satyapal to have multiple inlets, outlets and ion generators AND arrange them in the novel manner of the claimed invention. The Applicants therefore respectfully request the Examiner to remove the obviousness rejection. Alternatively, the Applicants respectfully request that the Examiner provide objective evidence of motivation to modify Satyapal to have multiple inlets, outlets and ion generators and arrange the inlets, outlets and ion generators in the manner of the claimed invention. See Chu.

In addition, the Examiner states that the inlets, outlets and ion generators in the present invention would work equally well as the device taught in Satyapal. There is no hint, teaching or suggestion in Satyapal that supports this statement, and again, it appears that the Examiner is either relying on scientific theory or making broad, conclusory statements. Again, the Applicant challenges the Examiner’s assertion and requests evidentiary support for this assertion. In re Grose, 592 F.2d 1161 (CCPA 1979). Alternatively, the Examiner may provide an affidavit swearing to the present invention working equally well as the device taught in Satyapal. See 37 CFR 1.104(d)(2).

Regarding Claim 1, as stated above, Satyapal does not provide motivation to one skilled in the art to modify the Satyapal device to have inlets on opposing sides of the housing as well as outlets on opposing sides of the housing. Additionally, Satyapal does not teach multiple electrostatic precipitators which are arranged to create a first and second airflow from the inlets toward opposite outlets. Accordingly, Claim 1 is patentable over Satyapal individually or in combination.

Claims 2-5, 8, 10, 14, and 17-22 are dependent upon the independent Claim 1. As stated above, Claim 1 is allowable over the teachings of Satyapal. Accordingly, Claims 2-3, 8, 10, 14, and 17-22 are also allowable as being dependent upon an allowable base claim.

Regarding Claim 23, as stated above, there is no hint, teaching or suggestion in Satyapal to modify the air cleaner to have multiple inlets which are non-parallel to the multiple outlets. For at least these reasons, Claim 23 is patentable over Satyapal individually or in combination.

Claims 24-27, 29, 31, 35, and 39-44 are dependent upon the independent Claim 23. As stated above, Claim 23 is allowable over the teachings of Satyapal. Accordingly, Claims 24-27, 29, 31, 35, and 39-44 are also allowable as being dependent upon an allowable base claim.

Regarding Claim 45, there is no hint, teaching or suggestion in Satyapal to modify the structure of the air cleaner to have inlets in the top and bottom of the housing as well as an outlet in the side of the housing. Additionally, there is no motivation or reason for one skilled in the art to vertically draw air from the inlets and horizontally drive the air to the outlet. For at least these reasons, Claim 45 is patentable over Satyapal individually or in combination.

Claims 46-48 and 51-54 are dependent upon the independent Claim 45. As stated above, Claim 45 is allowable over the teachings of Satyapal. Accordingly, Claims 46-48 and 51-54 are also allowable as being dependent upon an allowable base claim.

Regarding Claim 55, there is no hint, teaching or suggestion in Satyapal to modify the structure of the air cleaner to have inlets in the top and bottom of the housing as well as outlets on opposite sides of the housing. Additionally, there is no motivation or reason for one skilled in the art to include modify Satyapal to have multiple electrostatic precipitators to create airflow from the inlets to the outlets on opposite sides

of the housing. For at least these reasons, Claim 55 is patentable over Satyapal individually or in combination.

Claims 56-59, 61 and 62 are dependent upon the independent Claim 55. As stated above, Claim 55 is allowable over the teachings of Satyapal. Accordingly, Claims 56-59, 61 and 62 are also allowable as being dependent upon an allowable base claim.

Regarding Claim 65, there is no hint, teaching or suggestion in Satyapal to modify the structure of the air cleaner to have inlets opposite from each other as well as outlets opposite from each other. Additionally, there is no motivation or reason for one skilled in the art to include modify Satyapal to have multiple electrostatic precipitators to dividedly direct the incoming air from the inlets to the outlets on opposite sides of the housing. For at least these reasons, Claim 65 is patentable over Satyapal individually or in combination.

Regarding Claim 71, it is stated above that the inlet and outlet of the air cleaner in Satyapal are arranged in a one dimension direction, whereby the electro-static precipitator in Satyapal is oriented to ionize air in the one dimension direction. Thus, there is no motivation or reason for one skilled in the art to include modify the Satyapal device to have inlets which are substantially perpendicular to the outlet. For at least these reasons, Claim 71 is patentable over Satyapal individually or in combination with other references.

Regarding Claim 72, there is no hint, teaching or suggestion in Satyapal to modify the structure of the air cleaner to have inlets in the top and bottom of the housing as well as outlets on opposite sides of the housing. Additionally, there is no motivation or reason for one skilled in the art to modify Satyapal to have multiple electrostatic precipitators which vertically draw air from the inlets and horizontally drive the air out of the opposed outlets. For at least these reasons, Claim 72 is patentable over Satyapal individually or in combination.

Regarding Claim 73, there is no hint, teaching or suggestion in Satyapal to modify the structure of the air cleaner to have inlets opposite from each other as well as outlets opposite from each other. Additionally, there is no motivation or reason for one skilled in the art to include modify Satyapal to have multiple electrostatic precipitators which direct a first airflow and a second airflow away from each other

toward their respective outlets. For at least these reasons, Claim 73 is patentable over Satyapal individually or in combination with other references.

### **Satyapal in view of Moon**

Claims 6, 11-13, 28, 32-34, and 66-70 have also been rejected within the Office Action under 35 U.S.C. 103(a) as being unpatentable over Satyapal and in view of U.S. Patent No. 5,215,558 to Moon (hereinafter “Moon”). The Applicants respectfully traverse.

Claims 6 and 11-13 are dependent upon the independent Claim 1. Claims 28 and 32-34 are dependent on the independent Claim 23. Also, Claims 61 and 62 are dependent on the independent Claim 55. As stated above, Claims 1, 23 and 55 are allowable over the teachings of Satyapal. Accordingly, Claims 6, 11-13, 28 and 32-34 are also allowable as being dependent upon allowable base claims.

Regarding Claim 67, as stated above, there is no hint, teaching or suggestion in Satyapal to modify the conditioner to have at least two inlets opposed from each other, and at least two outlets opposed from each other. Additionally, there is no motivation or reason for one skilled in the art to modify Satyapal to have multiple electrostatic precipitators which create airflow from the inlets to their respective outlets on opposite sides of the housing. For at least these reasons, Claim 67 is patentable over Satyapal and Moon, individually or in combination.

Claim 68 is dependent upon the independent Claim 67. As stated above, Claim 67 is allowable over the teachings of Satyapal and Moon, individually or in combination. Accordingly, Claim 68 is also allowable as being dependent upon an allowable base claim.

Regarding Claims 69 and 70, there is no hint, teaching or suggestion in Satyapal to modify the structure of the air cleaner to have opposed inlets. Additionally, there is no motivation or reason for one skilled in the art to include modify Satyapal to have multiple electrostatic precipitators which create airflow from the opposed inlets to one or more outlets. For at least these reasons, Claim 70 is patentable over Satyapal individually or in combination with other references.

**Satyapal in view of Anzai**

Within the Office Action, Claims 7, 15-16, 36-38, 49-50, 60, and 63-64 were rejected under 35 U.S.C. 103(a) as being unpatentable over Satyapal in view of U.S. Patent No. 4,772,297 to Anzai. The Applicants respectfully traverse.

Claims 7, 15 and 16 are dependent upon the independent Claim 1. As stated above, Claim 1 is allowable over the teaching of Satyapal and Anzai, individually or in combination. Accordingly, Claims 7, 15 and 16 are also allowable as being dependent upon an allowable base claim.

Claims 36-38 are dependent upon the independent Claim 23. As stated above, Claim 23 is allowable over the teachings of Satyapal and Anzai individually or in combination. Accordingly, Claims 36-38 are also allowable as being dependent upon an allowable base claim.

Claims 49 and 50 are dependent upon the independent Claim 45. As stated above, Claim 45 is allowable over the teachings of Satyapal and Anzai individually or in combination. Accordingly, Claims 49 and 50 are also allowable as being dependent upon an allowable base claim.

Claims 60, 63 and 64 are dependent upon the independent Claim 55. As stated above, Claim 55 is allowable over the teachings of Satyapal and Anzai individually or in combination. Accordingly, Claims 60, 63 and 64 are also allowable as being dependent upon an allowable base claim.

For at least these reasons, Claims 7, 15, 16, 36-38, 49, 50, 60, 63 and 64 are allowable over Satyapal and Anzai, individually or in combination.

## II. CONCLUSION

In light of the above, it is respectfully submitted that Claims 1-3 and 6-73 in the subject patent application are allowable, and a Notice of Allowance is respectfully requested. The Examiner is respectfully requested to telephone the undersigned to assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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By: S. Bhattacharya

Suvashis Bhattacharya  
Reg. No. 46,554

Customer No. 23910  
FLIESLER MEYER LLP  
Four Embarcadero Center, Fourth Floor  
San Francisco, California 94111-4156  
Telephone: (415) 362-3800